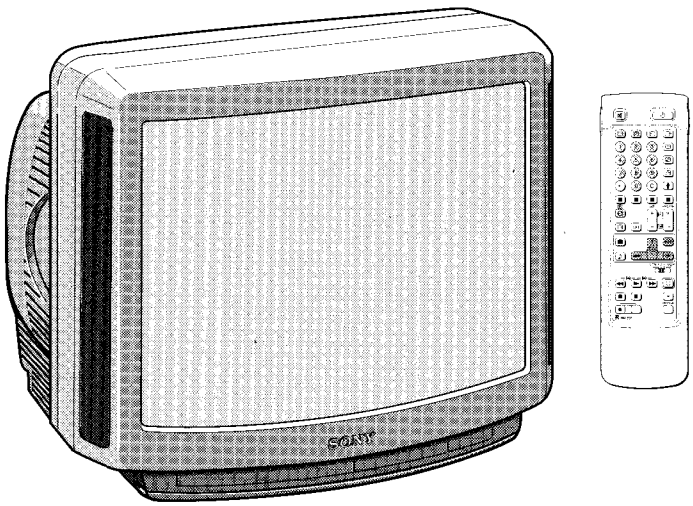
USER'S MANUAL

AE-2BCHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2971A	RM-831	Italian	SCC-Q59A-A	KV-X2973E	RM-831	Spanish	SCC-G56A-A
KV-X2571B	RM-831	French	SCC-G57A-A	KV-X2571K	RM-831	OIRT	SCC-G73A-A
KV-X2571D	RM-831	AEP	SCC-G45A-A	KV-X2572U	RM-831	UK	SCC-G55A-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF: 21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	OIRT	UK
Power Consumption	112W	125W	130Wh	133Wh	130Wh	186W

SPECIFICATIONS

Picture Tube — Super Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured diagonally)
110° -deflection

Input/Output Terminals

[REAR]

- 1 21-pin Euro connector (CENELEC standard)
  - inputs for audio and video signals
  - inputs for RGB
  - outputs of TV video and audio signals
- 2/S 2 21-pin Euro connector
  - inputs for audio and video signals
  - inputs for S video
  - outputs for audio and video signals (selectable)
- Audio outputs (variable) - phono jacks

[FRONT]

- 3 Video input - phono jack
- Audio inputs - phono jacks
- 3 S video input 4-pin DIN
- Ω Headphone jacks : stereo minijack

Sound output	2 x 12W (RMS) 2 x 30W (Music)
Power requirements	220 - 240V
Dimensions	Approx. 676x557x528 mm
Weight	Approx. 48kg
Supplied accessories	RM-831 Remote Commander (1) IEC designation R6 battery (1)
Other features	NICAM , FASTEXT.

[RM-831]

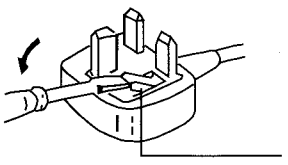
Remote control system	infrared control
Power requirements	1.5V dc 1 battery IEC designation R6 (size AA)
Dimensions	Approx. 65x225x21 mm (w/h/d)
Weight	Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice.

Item \ Model name	KV-X2971A	KV-X2971B	KV-X2971D	KV-X2973E	KV-X2971K	KV-X2972U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None	OIRT	English

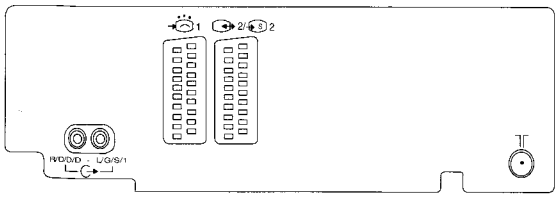
WARNING (KV-X2972U only)

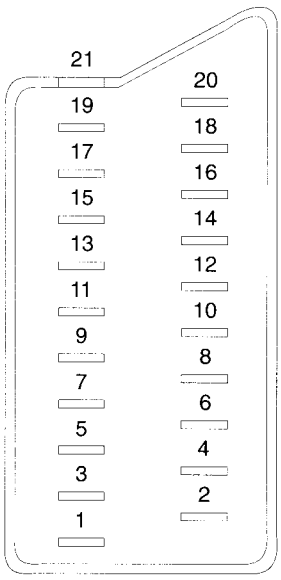
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME. IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade and replace the fuse.

21 pin connector (1 2 / 4)





Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.

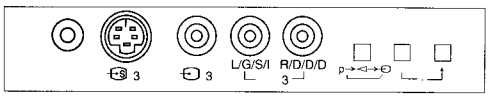


TABLE OF CONTENTS

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	Additional Presetting Functions	10
	Watching the TV	13
	Adjusting and Setting the TV Using the Menu	15
	Teletext	17
	Connecting and Operating optional Equipment	20

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

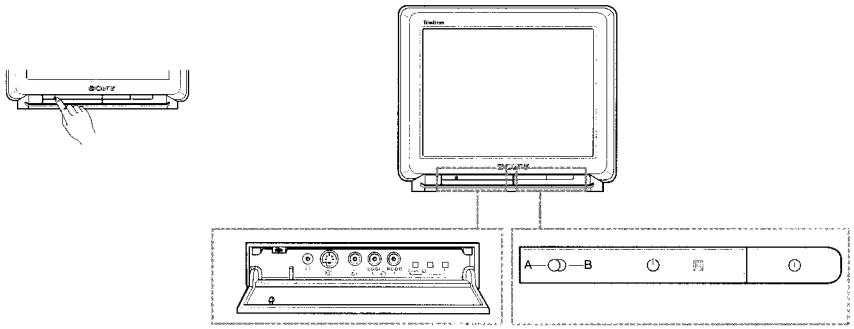
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Overview

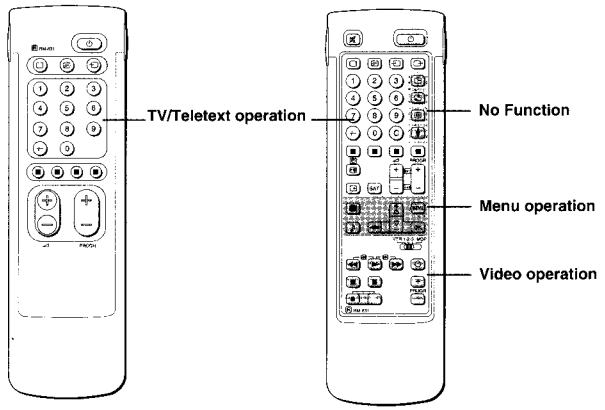
This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

TV set - front



Symbol	Name	Refer to page
⏻	Main power switch	13
⏻	Standby indicator	13
A-CD-B	Stereo A/B indicators	15
∩	Headphones jack	20
S 3, 3, 3	Input jacks (S-video/video/audio)	20
P	Function selector (Programme/volume/input)	13
– +	Adjustment buttons for function selector	13

Remote Commander RM-831



Simple side

Full-Function side

Note
The SAT button does not operate with this TV.

TV/Teletext operation

Symbol	Name	Refer to Page
🔇	Mute on/off button	14
⏻	Standby button	13
🖵	TV power on/TV mode selector button	13
📺	Teletext button	14
	Input mode selector	14
	Output mode selector	21
1,2,3,4,5,6, 7,8,9, and 0	Number buttons	13
–/– –	Double-digit entering button	13
C	Direct channel entering button	10
+/–	Volume control button	13
PROGR +/–	Programme selectors	13
	Teletext page access buttons	17
●	Picture adjustment button	15
♪	Sound adjustment button	15
	On-screen display button	14
	Teletext hold button	17
	Time display button	14
■■■■	Fastext buttons	17

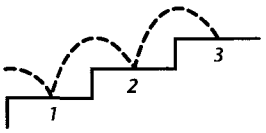
Menu operation

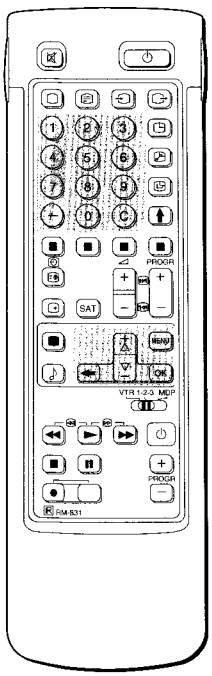
Symbol	Name	Refer to Page
MENU	Menu on / off button	7
△+/▽–	Select buttons	7
OK	OK (confirming) button	7
←	Back button	7

Video operation

Symbol	Name	Refer to Page
VTR1/2/3 MDP	Video equipment selector	22
◀◀ ▶ ▶▶ ■ ❚❚ ● ⏻ PROGR +/–	Video equipment operation buttons	22

Step 3 Tuning in to TV Stations





Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 60 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.

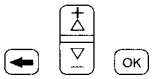
❶ Choose a language

1 Depress ⏻ on the TV.
The TV will switch on. If the standby indicator on the TV is lit, press 🖵 or a number button on the Remote Commander.

2 Press the MENU button.
The LANGUAGE menu appears. (See Fig. 1)

Fig. 1.

3 Select the language you want with △+ or ▽–, and then press OK.



❷ Display the Menu

Press the ← button.
The main menu appears. (See Fig. 2)

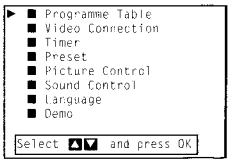


Fig. 2.

Now, choose one of the methods described overleaf:

"Preset Channels Automatically"

or

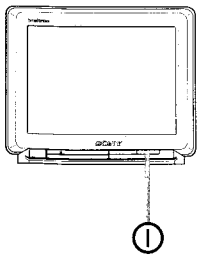
"Preset Channels Manually".

It is recommended to choose

"Preset Channels Automatically".

Then the channels are automatically stored as follows;

Programme 1	–	BBC1
Programme 2	–	BBC2
Programme 3	–	ITV
Programme 4	–	CH4 or S4C



To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Note on the Demo function:
If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions. Press MENU to stop the function.

❸ Preset channels automatically

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting:
Press ⬅ on the Remote Commander.

Notes:
• After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see "Using the Programme Table" on page 16.

• You can sort the programme positions to have them appear on screen in the order you like. For details, see "Sorting Programme Positions" on page 10.

• Programme names are automatically taken from Teletext if available. If not please refer to page 11 "Captioning a station name" for further information.

1 Select Preset with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig. 3.)

2 Select Auto Programme with △+ or ▽– and press OK.
The AUTO PROGRAMME menu appears. (See Fig. 4.)

3 Press OK repeatedly until the first element of the "PROG" number is highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "0" here) and press OK.
The second element of "PROG" will be highlighted.

5 Select the second element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "4" here) (See Fig. 5.) and press OK.

6 The automatic channel presetting starts.
When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. (Press MENU to restore normal TV picture).

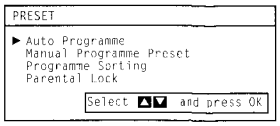


Fig. 3.

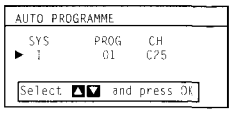


Fig. 4.

Fig. 5.

❸ Preset channels manually

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake:
Press ⬅ to go back to the previous position.
To go back to main menu
Keep pressing ⬅.
To go back to the normal TV picture
Press MENU.

1 Select Preset with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig. 6.)

2 Select Manual Programme Preset with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 7.)

Fig. 6.

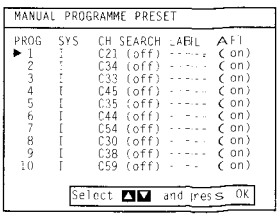

MANUAL PROGRAMME PRESET
PROG SYS CH SEARCH LABEL AFT
▶ 1 C21 (off) (on)
2 C34 (off) (on)
3 C33 (off) (on)
4 C45 (off) (on)
5 C35 (off) (on)
6 C44 (off) (on)
7 C54 (off) (on)
8 C30 (off) (on)
9 C38 (off) (on)
10 C59 (off) (on)
Select ▲▼ and press OK

Fig. 7.

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

Please refer to "Television Channel Number Guide" on page 24.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽– to select programme numbers higher than 10.

5 Select, if necessary, a video input source (EXT) with △+ or ▽–. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8.)

Fig.8.

6 Using △+ or ▽–, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the "CH" number will be highlighted.
If you have selected EXT in step 5, select the video input source with △+ or ▽–. (See Fig. 9.)

Fig.9.

There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

or

if you don't know the channel number, go to step "7- Search".

7 ***Manual***

-a Select the first element of the "CH" number with △+ / ▽– or the number buttons and press OK.
The second element of the "CH" number will be highlighted.

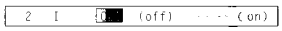


Fig.10.

-b Select the second element of the number with △+ / ▽– or the number buttons.
The selected number appears. (See Fig. 10.)

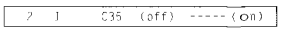


Fig.11.

-c Press OK
The "SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Fig.12.

7 ***Search***

-a Press OK repeatedly until the colour of the SEARCH position changes.

Fig.13.

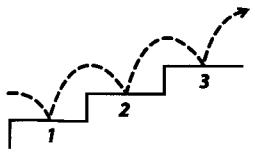
-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Additional Presetting Functions



This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

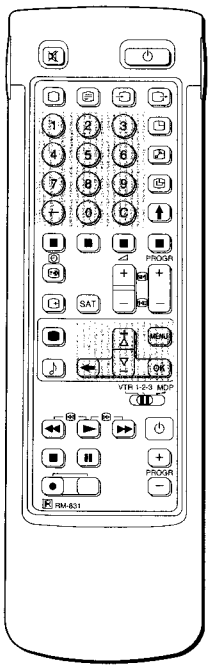
Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

PROGRAMME SORTING

Sorting Programme Positions

With this function, you can sort the programme positions to a preferable order.



For higher programme positions:
The display scrolls automatically.

If you have made a mistake:
Press ← to go back to the previous position.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select Programme Sorting with △+ or ▽– and press OK.
The PROGRAMME SORTING menu appears. (See Fig. 14.)

4 Using △+ or ▽–, select the programme position you want to move to another programme position and press OK.
The colour of the selected position changes. (See Fig. 15.)

5 Using △+ or ▽–, select the programme position to which you want to move the selected programme and press OK. Now the two programme positions have been sorted. (See Fig. 16.)

6 Repeat steps 4 and 5 to exchange other programme positions.

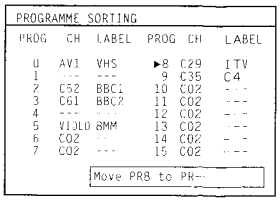

PROGRAMME SORTING
PROG CH LABEL PROG CH LABEL
0 AV1 VHS ▶8 C29 ITV
1 --- --- 9 C35 C4
2 C52 BBC1 10 C02 ---
3 C61 BBC2 11 C02 ---
4 --- --- 12 C02 ---
5 VIDEO 8MM 13 C02 ---
6 C02 --- 14 C02 ---
7 C02 --- 15 C02 ---
Move PR8 to PR--

Fig. 14.

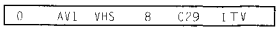


Fig. 15.

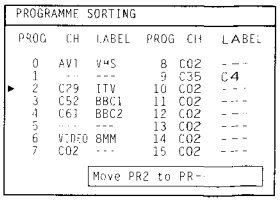

PROGRAMME SORTING
PROG CH LABEL PROG CH LABEL
0 AV1 VHS 8 C02 ---
1 --- --- 9 C35 C4
▶ 2 C29 ITV 10 C02 ---
3 C52 BBC1 11 C02 ---
4 C61 BBC2 12 C02 ---
5 --- --- 13 C02 ---
6 VIDEO 8MM 14 C02 ---
7 C02 --- 15 C02 ---
Move PR2 to PR--

Fig. 16.

Tuning in a Channel Temporarily

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

1 Press C on the Remote Commander.
The indication "C" appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/- buttons. However, the skipped programmes may still be called up when you use the number buttons.

PROGR
+
−

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽− and press OK.
The PRESET menu appears.

3 Select Manual Programme Preset with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig.17.)

4 Using △+ or ▽−, select the programme position which you want to skip and press OK.
The "SYSTEM" position changes colour.

5 Press △+ or ▽− until − − − appears in the SYSTEM position. (See Fig. 18.)

6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR +/− buttons, the programme position will be skipped.

7 Repeat steps 4 to 6 to skip other programme positions.

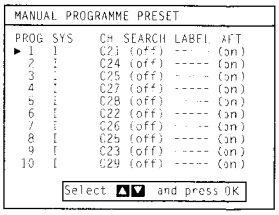


Fig. 17.

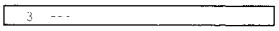


Fig. 18.

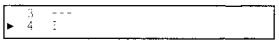


Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

Programme names are automatically taken from Teletext if available. However you can also "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽− and press OK.
The PRESET menu appears.

If you have made a mistake:
Press ← to go back to the previous position.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.

3 Select Manual Programme Preset with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 20.)

4 Using △+ or ▽−, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽− and press OK.The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)

6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)

7 Repeat steps 5 and 6 to caption names for other channels.

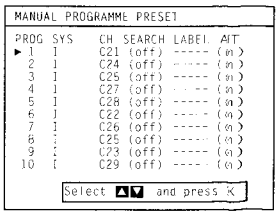


Fig. 20.

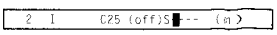


Fig. 21.

Fig. 22.

MANUAL PROGRAMME PRESET

Manual Fine-Tuning

Normally, the AFT(automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select Manual Programme Preset with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 23.)

4 Using △+ or ▽– , select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.

5 Fine-tune the channel with △+ or ▽– so that you get the best TV reception. As you press the cursor buttons, the frequency changes from –15 to +15. (See Fig. 24.)

To reactivate AFT (automatic fine tuning):
Repeat from the beginning and select "ON" in step 5.

6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.

7 Repeat steps 4 to 6 to fine-tune other channels.

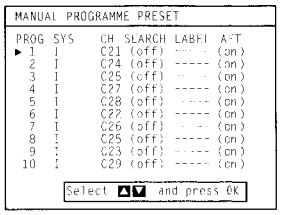

MANUAL PROGRAMME PRESET
PROG SYS CH SEARCH LABEL AFT
▸1 I C21 (off) ----- (on)
2 I C24 (off) ----- (on)
3 I C25 (off) ----- (on)
4 I C27 (off) ----- (on)
5 I C28 (off) ----- (on)
6 I C22 (off) ----- (on)
7 I C26 (off) ----- (on)
8 I C25 (off) ----- (on)
9 I C23 (off) ----- (on)
10 I C29 (off) ----- (on)
Select ▲▼ and press OK

Fig. 23.

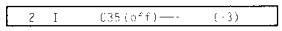


Fig. 24.

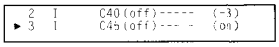


Fig. 25.

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select Parental Lock with △+ or ▽– and press OK.
The PARENTAL LOCK menu appears. (See Fig. 26.)

4 Using △+ or ▽–, select the programme position you want to block and press OK.
The CH and LABEL, of the selected programme number, change colour indicating that this programme is now blocked.
(See Fig. 27.)

5 Repeat step 4 to block other programme positions.

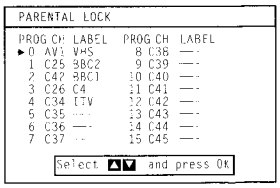

PARENTAL LOCK
PROG CH LABEL PROG CH LABEL
▸0 AV1 VHS 8 C38 ----
1 C25 BBC2 9 C39 ----
2 C42 BBC1 10 C40 ----
3 C26 C4 11 C41 ----
4 C34 ITV 12 C42 ----
5 C35 ---- 13 C43 ----
6 C36 ---- 14 C44 ----
7 C37 ---- 15 C45 ----
Select ▲▼ and press OK

Fig. 26.

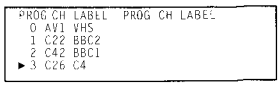


Fig. 27.

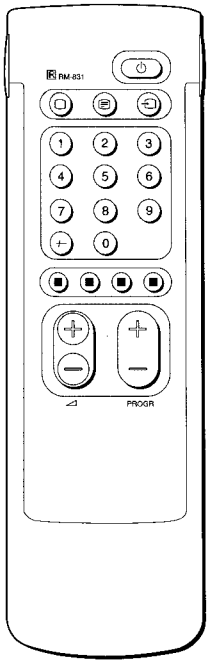
If you try to select a programme that has been blocked:
The message "LOCKED" appears on the blank TV screen.

Cancelling blocking

1 On the PARENTAL LOCK menu, select the programme position you want to unblock with △+ or ▽–.

2 Press OK.
The CH and LABEL change to normal colour indicating that the blocking has been cancelled.

Watching the TV

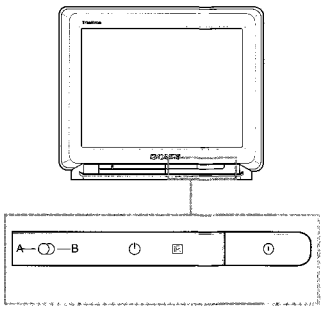


This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off

Switching on

Depress ⏻ on the TV.



Switching off temporarily

Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ▢, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⏻ on the TV.

If no picture appears when you depress ⏻ on the TV

and if the standby indicator on the TV is lit, the TV is in standby mode. Press ▢ or one of the number buttons to switch it on.

Selecting TV Programmes

Press PROGR +/– or press number buttons.

To select a double-digit number

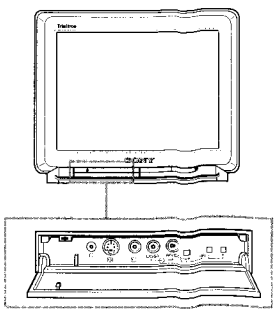
Press –/– –, then the numbers.
For example, if you want to choose 23, press –/– –, 2, and 3.

Adjusting the Volume

Press ◿ +/–.

Operating the TV Using the Buttons on the TV

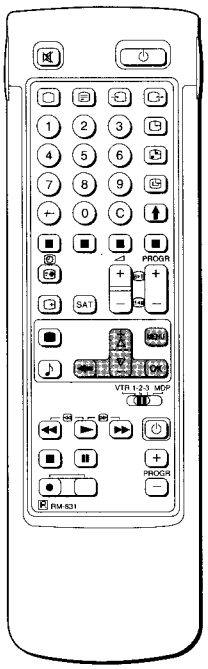
With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.



- Press P→◿→⊡ button repeatedly until the programme number, ◿ (for volume), or →⊡ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET symbol →•← is displayed).

For details of the teletext operation, refer to page 17.

For details of the video input picture, refer to page 21.



Watching Teletext or Video Input

Watching teletext

- Press ⓣ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press ⓟ (PAGE +) or ⓟ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ▢.

Watching a video input picture

Press ⊡ repeatedly until the desired video input appears. To go back to the normal TV picture, press ▢.

More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊡ once to display all the indications. They will disappear after some seconds.
- Press ⊡ twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

Press 🔇.
To resume normal sound, press 🔇 again.

Displaying the time

Press ⓘ. This function is available only when teletext is broadcast.
To make the time display disappear, press ⓘ again.

Displaying of the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See. Fig.28)

Selecting of TV programmes

Press PROGR +/- or select the desired programme position using △+ or ▽– and press OK.

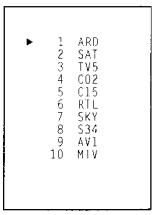
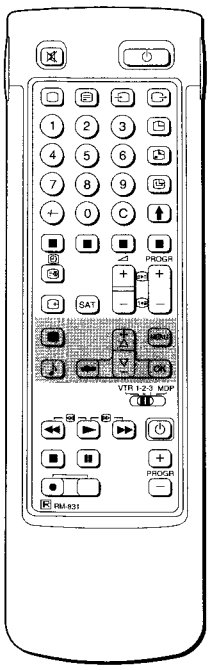


Fig.28.

To make the Programme Table disappear
Press MENU.

Adjusting and Setting the TV Using the Menu

PICTURE CONTROL
SOUND CONTROL



Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones (🎧).

1 Press ● (for picture) or ♪ (for sound) on the Remote Commander.

or

Press MENU and select Picture Control or Sound Control, then press OK.
The PICTURE CONTROL or SOUND CONTROL menu appears. (See Fig. 29 or Fig. 30)

2 Using △+ or ▽–, select the item you want to adjust and press OK.The selected item changes colour. (See Fig. 31)

3 Adjust the setting with △+ or ▽ – and press OK.
The cursor appears beside the next item (at the left margin). (See Fig. 32)
For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.

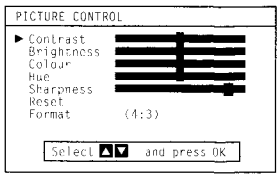


Fig. 29.

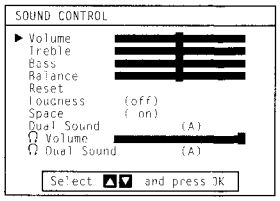


Fig. 30.

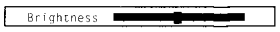


Fig. 31.

Fig. 32.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to the main menu:
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

Note:
HUE is only available for NTSC colour system.

Note on LINE OUT:
The audio level and the dual sound mode output from the 🎧 jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

When watching a video input source with stereo sound:
You can select DUAL SOUND to change the sound.

Effect of each control

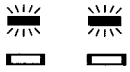
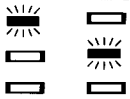
PICTURE CONTROL	Effect
Contrast	Less —I— More
Brightness	Darker —I— Brighter
Colour	Less —I— More
Hue	Greenish —I— Reddish
Sharpness	Softer —I— Sharper
Reset	Resets picture to the factory preset levels.
Format	4 : 3 : Normal 16 : 9 : Wide screen effect

SOUND CONTROL	Effect
Volume	Less —I— More
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —I— More right
Reset	Resets sound to the factory preset levels.
Loudness	off : Normal on : When listening to low volume sound.
Space	off : Normal on : Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-CD-B indicator on the TV lights up. (for NICAM broadcasts see next page)
Headphones:	
🎧 Volume	Less —I— More
🎧 Dual Sound	A : left channel B : right channel STEREO MONO

*Selecting Nicam Broadcasts**

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received, "NICAM" appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-CD-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 15.

Service Being Broadcast	Action	Effect	Indication on the TV A-CD-B
Stereo	Press △+ or ▽–	Stereo Nicam (Mono 2-Channel) mono	
Press △+ or ▽– again to return to stereo Nicam (mono 2-channel)			
Bilingual	press △+ or ▽–	Channel A Nicam Channel B Nicam mono	
Press △+ or ▽– again to return to channel A Nicam			

* Depending on availability of service.

PROGRAMME TABLE

To go back to the normal TV picture:
Press MENU.

Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

1 From the main menu, select Programme Table with △+ or ▽– and press OK.
The PROGRAMME TABLE menu appears. (See Fig. 33)
To scroll to higher programme numbers, press ▽–.

2 To select a programme using this menu select the programme number with △+ or ▽– and press OK.
The selected programme appears.

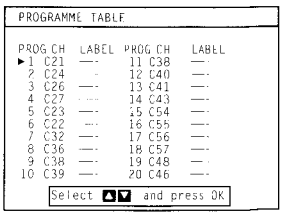

PROGRAMME TABLE
PROG CH LABEL PROG CH LABEL
▸1 C21 — 11 C38 —
2 C24 12 C40 —
3 C26 — 13 C41 —
4 C27 14 C43 —
5 C23 — 15 C54 —
6 C22 — 16 C55 —
7 C32 — 17 C56 —
8 C36 — 18 C57 —
9 C38 — 19 C48 —
10 C39 — 20 C46 —
Select ▲▼ and press OK

Fig. 33.

TIMER

To switch off the timer:
Select "OFF" in step 3.

To check the remaining time:
Press ⊕.

Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode.

1 From the main menu, select Timer with △+ or ▽– and press OK.
The TIMER menu appears. (See Fig. 34.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽–.
The time period (in minutes) changes as follows:
10→20→30→40→50→60→70→80→90
↑ OFF ←

4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.

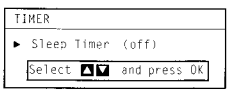
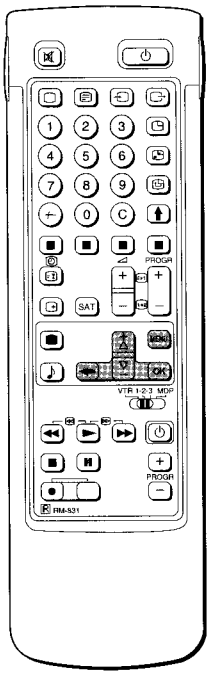


Fig. 34.

Teletext



Note:
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander:
You can switch teletext on and off, operate Fastext, and directly select page numbers.

TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⓣ to switch on teletext.
A teletext page will be displayed (usually the index page).If there is no teletext broadcast, "No text available" is displayed on the informa-tion line at the top of the screen.

To switch teletext off
Press ▢.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press OK. Using △+ or ▽–, select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Press ⓣ to resume normal teletext reception.

Accessing next or preceding page

Press ⓣ (PAGE +) or ⓣ (PAGE –).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ⓣ once in teletext mode or twice in TV mode.
- Press ⓣ again to resume normal teletext reception.

Preventing a teletext page from being updated

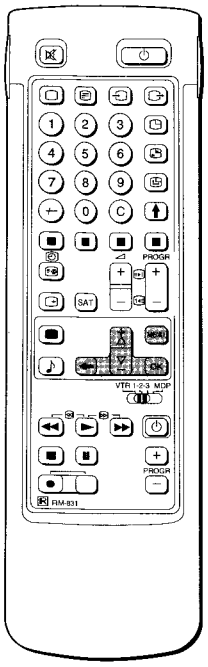
- Press ⓣ (HOLD). The HOLD symbol "ⓣ" is displayed on the information line.
- Press ⓣ to resume normal teletext reception.

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

Using Fastext

With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

Using the Teletext Menu



This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 35)

2 Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 36)

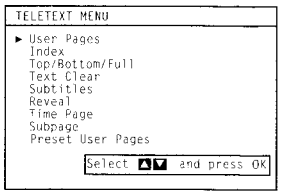


Fig. 35.

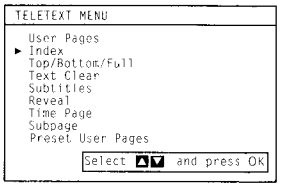


Fig. 36.

USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line Top/Bottom/Full will be displayed. (See Fig. 37)

Press △+ for Top to enlarge the upper half. For Bottom keep pressing ▽–, to enlarge the lower half. Press OK for Full to resume the normal size.

Press ⓣ to resume normal teletext reception.

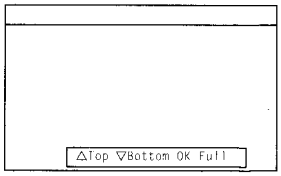


Fig. 37.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 38).

Press ⓣ to view the requested page.

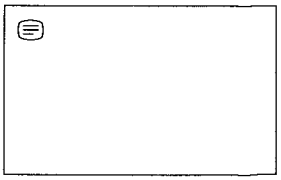


Fig. 38.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line "REVEAL ON/OFF" will be displayed. (See Fig. 39)

Using △+ or ▽–, select ON to reveal the information or OFF to conceal it again.

Press ⓣ to resume normal teletext reception.

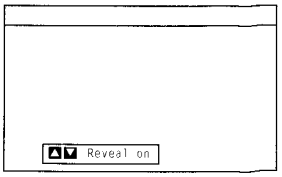


Fig. 39.

TIME PAGE

This function is not available.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROGR+/– or the number buttons. (e.g. enter 0002 for the second page of a sequence).

Note:
Some of the features may not be available depending on the Teletext service.

Note on Subtitles:
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

To cancel the request:
Select "Subpage" and press OK.

If two broadcasting stations use the same Teletext:
You can preset one bank to 2 different programme positions.

User Page Bank System

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1 Press ⓣ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

2 Select PRESET USER PAGES with △+ or ▽– and press OK.

3 Select the desired bank with △+ or ▽– and press OK. The cursor will go to the first position (P1) of the preferred pages.

4 Input the three digits of your first preferred page with the number buttons and press OK.
The cursor will go to the second position.

5 Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.

6 Select Allocate Bank with △+ or ▽– and press OK.

7 Select the programme position for which you have preset pages with △+ or ▽– and press OK. (See Fig. 40)

8 Select the desired bank with △+ or ▽– (Banks A to E are available) and press OK.

9 Repeat steps 3 to 8 for the other 4 banks available.

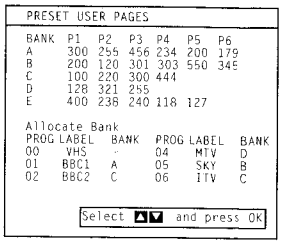

PRESET USER PAGES
BANK P1 P2 P3 P4 P5 P6
A 300 255 456 234 200 179
B 200 120 301 303 550 345
C 100 220 300 444
D 128 321 255
E 400 238 240 118 127
Allocate Bank
PROG LABEL BANK PROG LABEL BANK
00 VHS 04 MTV D
01 BBC1 A 05 SKY B
02 BBC2 C 06 ITV C
Select ▲▼ and press OK

Fig.40.

Displaying User Pages

1 Select MENU.

2 Select User Pages with △+ or ▽– and press OK.
A table of the stored preferred pages will be displayed. (See Fig. 41)

3 Select the desired page with △+ or ▽– and press OK. The page will be displayed after some seconds.

You can use the coloured buttons on the Remote Commander to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button.

To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this teletext page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to display the page.

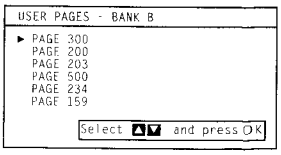


Fig. 41.

Connecting and Operating Optional Equipment

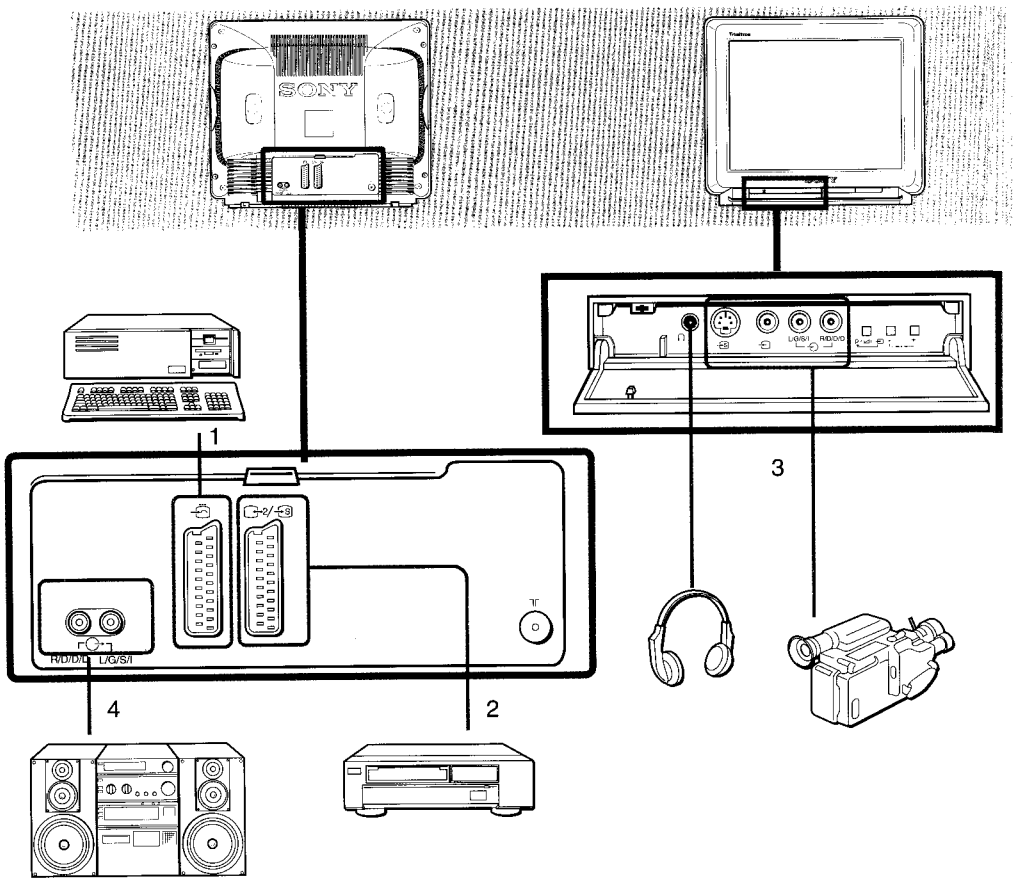
Connecting Optional Equipment

You can connect optional audio-video equipment to this TV such as VTRs, video disc players, and stereo systems.

To connect a VTR using the ⊓ terminal:
Connect the aerial output of the VTR to the aerial terminal ⊓ of the TV.

We recommend that you tune in the signal to programme number "0". For details see "Preset Channels Manually" on page 8.

If the picture or the sound is distorted:
Move the VTR away from the TV.



S video input (Y/C input):
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

When connecting a monaural VTR:
Connect only the white ⊖ jack to both the TV and VTR.

Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

20

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1 Select `Video Connection` with △+ or ▽– and press OK. The `VIDEO CONNECTION` menu appears. (See Fig. 42)

You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

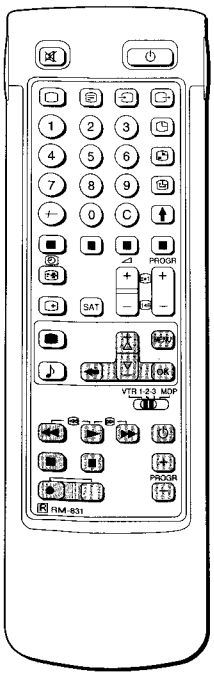
2 Select TV Screen (input source for the TV screen) or output (output source) with △+ or ▽– and press OK. One of the source items changes colour. (See Fig. 43)

3 Select the desired source with △+ or ▽–.
(See Fig. 44)
For details about each source, see the table on page 21.

4 Press OK.

The selected source is confirmed, and the cursor appears. (See Fig. 45)

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.



When recording
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR

VTR 3: VHS VTR

MDP: Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

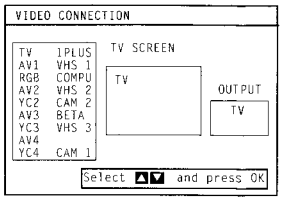


Fig. 42.

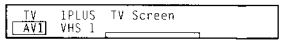


Fig. 43.

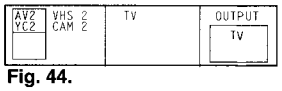


Fig. 44.

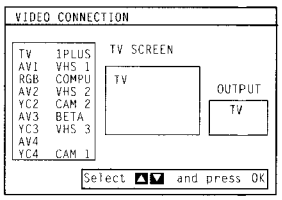


Fig. 45.